AMENDED CLAIMS

**[received by the International Bureau on 18 September 2003 (18.09.03);
original claims 1, 2, 7 and 8 amended;
claims 10-18 replaced by new claims 10-13;
remaining claims unchanged**

What is claimed is:

1. A sorption concentrator for removing contaminants from a gas stream, comprising:

a plurality of adjacent generally rectangular sorption units;

a gas flow system directing gas to be cleaned through a majority of said plurality of sorption units during a sorption cycle and directing a separate clean gas stream through the remaining sorption units during a desorb cycle;

said plurality of adjacent sorption units each including an integral semi-conductive foil substrate formed of a plurality of semi-conductive foil elements including parallel convoluted surfaces and parallel channels extending generally parallel to a direction of flow of said gas to be cleaned during said sorption cycle and said clean gas stream during said desorption cycle extending from an inlet to an outlet of said sorption units conductively bonded together to form an integral semi-conductive substrate coated with a sorption material; and

a source of electrical current connected to said semi-conductive foil substrate rapidly resistively heating said remaining sorption units during said desorption cycle.

2. The sorption concentrator as defined in Claim 1, wherein said integral semi-conductive foil substrate is formed of aluminum foil.

3. The sorption concentrator as defined in Claim 2, wherein said aluminum foil substrate has a thickness between 0.005 mm and 2 mm.

4. The sorption concentrator as defined in Claim 1, wherein said aluminum foil substrate has a thickness of between 0.005 mm and 2 mm.

5. The sorption concentrator as defined in Claim 2, wherein said aluminum foil substrate has a thickness of between 0.05 mm and 1 mm.

6. The sorption concentrator as defined in Claim 2, wherein said aluminum foil substrate has a thickness of between 0.1 mm to and 0.3 mm.

7. The sorption concentrator as defined in Claim 1, wherein said integral semi-conductive foil substrate comprises a honeycomb formed of a plurality of generally

parallel corrugated semi-conductive foil sheets each conductively bonded in electrical contact to a generally planar semi-conductive base sheet and coated with a sorption material.

8. The sorption concentrator as defined in Claim 1, wherein said integral semi-conductive foil substrate comprises a plurality of parallel semi-conductive foil tubes conductively bonded together in electrical contact formed of a semi-conductive foil coated with a sorption material extending parallel to said direction of flow of said gas to be cleaned during said sorption cycle and parallel to said clean gas stream during said desorb cycle.

9. The sorption concentrator as defined in Claim 1, wherein said sorption material is selected from the group consisting of activated carbon, zeolite and porous polymers bonded to said semi-conductive foil substrate.

Please cancel Claims 10 through 18.

10. (New) A method of removing contaminants from a gas stream, comprising the following steps:

forming a plurality of generally rectangular sorption units by forming a plurality of separate semi-conductive foil elements including parallel convoluted surfaces, conductively bonding said semi-conductive foil elements together forming an integral semi-conductive foil substrate having a plurality of parallel channels extending from an inlet to an outlet of said sorption units and coating said integral semi-conductive foil substrates with a sorption material;

directing a stream containing contaminants through said parallel channels of a plurality of said sorption units, wherein said sorption material collects said contaminants; and

applying an electric current to said integral semi-conductive foil substrate of at least one of said sorption units, thereby rapidly heating said integral semi-conductive foil substrate of said one of said sorption units and simultaneously directing clean air through said one of said sorption units, thereby desorbing said contaminants during a desorption cycle.

11. (New) The method of removing contaminants from a gas stream as defined in Claim 10, wherein said method includes coating said semi-conductive substrate with a sorption material by dipping said integral semi-conductive substrate in a slurry of sorption

material, removing said integral semi-conductive foil substrate from said slurry and drying said coating of sorption material on said semi-conductive foil substrate.

12. (New) The method of removing contaminants from a gas stream as defined in Claim 10, wherein said method includes forming a plurality of separate semi-conductive foil elements from an aluminum foil.

13. (New) The method of removing contaminants from a gas stream as defined in Claim 10, wherein said method includes forming said plurality of separate semi-conductive foil elements from a semi-conductive foil having a thickness of between 0.005 mm and 2 mm.